

REMARKS

Claims 19-31 were pending in this application prior to the final office action, of which claims 24, 25, 27, and 28 are withdrawn. By this amendment, claims 19, and 24-29 are amended, including withdrawn claims 24, 25, 27, and 28, and claims 20 and 23 are canceled. Thus, claims 19, 21-22, and 24-31 are now pending, of which claims 24, 25, 27, and 28 remain withdrawn. In view of the above amendments and the following remarks, Applicants respectfully request reconsideration and allowance of the application.

Claims 19-23, 26, and 29-31 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner asserts that claims 19 and 26 have been amended such that the organic compound is no longer limited to forming the electroluminescent layer, and that there is no evidence that the Applicant had possession and had presented written disclosure fairly indicating that the Applicant intended to claim the use of the organic compound to form the genus of all possible layers on an EL device. However, claims 19 and 26, as amended herein, instead recite that the electroluminescent layer is “formed between the anode and the cathode and including at least one organic compound layer,” which is supported by the originally filed specification, for example, in the originally filed claims. Accordingly, Applicants respectfully submit that pending claims 19, 21-22, 26, and 29-31 completely satisfy the requirements of 35 U.S.C. § 112, first paragraph, and request that this rejection be reconsidered and withdrawn.

Claims 19-23, 26, and 29-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,316,130 to Heuer et al. in view of WO 00/32719 (hereafter ‘719). In particular, the Examiner states that Heuer does not explicitly disclose the elected species, but asserts that the organic compound is disclosed as having aryl substituent and that Heuer even exemplifies aryl in formula B6 column 17, and thus asserts that it would have been obvious to one of ordinary skill in the art to have selected the elected formula with a reasonable expectation of success because Heuer clearly discloses an organic compound encompassing the claimed compound. In addition, the Examiner asserts that Heuer discloses forming the organometallic complex in solution prior to depositing on the substrate, but states does not explicitly teach that the organic compound and the metal salt can be co-deposited over an anode or electrode. Thus, the Examiner asserts that ‘719 discloses an improved

method for forming a film of an organic metal complex by codepositing the metal salt and the organic complex on the substrate surface to form a organometallic complex (abstract, page 2), and that the '719 teaches that the co-deposition method does not require multiple syntheses steps while forming an EL layer with improved performance (abstract, page 2). Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to vaporize both the metal salt and the organic compound and deposit them simultaneously on the substrate to reap the benefits as taught by '719 with a reasonable expectation of success.

With respect to claims 29-31, the Examiner asserts that Heuer discloses aluminum chloride and gallium chloride as suitable metal salts.

However, neither Heuer nor '719, alone or in combination, renders the invention recited in claims 19-23, 26, and 29-31 obvious under 35 U.S.C. § 103(a). For example, claim 19, as amended herein, recites, in relevant part, "co-depositing a metal salt and an organic compound ... over the anode or the cathode" wherein "the metal salt is one of a metal acetate salt, a metal halide and a metal alkoxide." Similarly, claim 26, as amended herein, recites, in relevant part, "co-depositing an organic compound ... and a metal salt over the anode or the cathode" wherein "the metal salt is one of a metal acetate salt, a metal halide and a metal alkoxide."

While Heuer generally discloses forming an organo-metallic complex from a metal salt and an organic complex in a solution, there is no suggestion in Heuer to co-deposit a metal salt and an organic compound over the anode or the cathode, wherein the metal salt is one of a metal acetate salt, a metal halide and a metal alkoxide, as is recited in the claims.

With respect to '719, which generally discloses that a mixture of a metal compound such as Tb(TMHD)₃, or Eu(DBM)₃ and an organic complex such as OPNP or Phenthroline are evaporated to form a film of an organo-metallic complex such as Tb(TMHD)₃OPNP, Eu(DBM)₃(OPNP)₃, or Bu(DBM)₃Phen (see Examples 1, 2, and 4 in pages 9-12 of 719), there is no suggestion to co-deposit a metal salt and an organic compound over the anode or the cathode, as is recited in the claims. Furthermore, the metal compounds disclosed by '719 are organo-metal complexes, which would be understood by

a person of ordinary skill in the art to be different from metal salts such as a metal acetate salt, a metal halide and a metal alkoxide. Accordingly, '719 also fails to suggest that the mixture of a metal salt and an organic compound are evaporated to form a film of an organo-metallic complex. Thus, there would not have been any motivation to combine Heuer, which discloses forming an organo-metallic complex from a metal salt and an organic complex, with the film forming method of '719.

For at least the above reasons, pending independent claims 19 and 26 are not rendered obvious under 35 U.S.C. § 103(a) in view of the combined teachings of Heuer and '719. Pending dependent claims 21-22, and 29-31 are also not rendered obvious under 35 U.S.C. § 103(a) in view of the combined teachings of Heuer and '719 by virtue of their dependency on claims 19 and 26, respectively, and also on their own merits.

Furthermore, claims 19-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 40-9328679 (hereafter '679) in view of WO 00/32719 (hereafter '719). In particular, the Examiner states that '679 does not explicitly teach that the organic material and the zinc acetate are co-deposited onto an anode or cathode, but asserts that such is obvious over '719 for substantially the same reasons discussed above.

However, neither '679 nor '719, alone or in combination, renders the invention recited in claims 19-23 obvious under 35 U.S.C. § 103(a). For example, as stated above, claim 19, as amended herein, recites, in relevant part, "co-depositing a metal salt and an organic compound ... over the anode or the cathode" wherein "the metal salt is one of a metal acetate salt, a metal halide and a metal alkoxide."

While '679 generally discloses forming an organo-metallic complex from a metal salt and an organic complex in a solution, there is no suggestion in '679 to co-deposit a metal salt and an organic compound over the anode or the cathode, as is recited in the claims. Similarly, as is described above, '719 also fails to suggest to co-deposit a metal salt and an organic compound over the anode or the cathode, as is recited in the claims. Accordingly, there would not have been any motivation to combine '679 with '719 to form an organo-metallic complex as asserted by the Examiner.

For at least the above reasons, pending independent claim 19 is not rendered obvious under 35 U.S.C. § 103(a) in view of the combined teachings of '679 and '719. Pending dependent claims 21-22 are also not rendered obvious under 35 U.S.C. § 103(a) in view of the combined teachings of '679 and '719 by virtue of their dependency on claim 19 and also on their own merits.

In addition, the preambles of withdrawn claims 24, 25, 27, and 28 are amended herein to maintain their consistency with the other pending claims. For example, withdrawn claims 24, 25, 27, and 28, as amended, recite, in relevant part, "an electroluminescent device comprising at least an anode, a cathode and an electroluminescent layer formed between the anode and the cathode and including at least one organic compound layer." Pursuant to 37 C.F.R. § 1.121(c)(2), the amendments to withdrawn claims 24, 25, 27, and 28 are correctly identified as "Withdrawn - Currently Amended." See M.P.E.P. § 714.

The present amendment is submitted in accordance with the provisions of 37 C.F.R. § 1.116, which after Final Rejection permits entry of amendments placing the claims in better form for consideration on appeal. As the present amendment is believed to overcome outstanding rejections under 35 U.S.C. § 112 and 103, the present amendment places the application in better form for consideration on appeal. It is therefore respectfully requested that 37 C.F.R. § 1.116 be liberally construed, and that the present amendment be entered.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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